SUBJECT CODE NO: - YY-2366 FACULTY OF SCIENCE AND TECHNOLOGY

B. Sc. F. Y. SEM II (CBCGS) (Pattern 2022) Examination April / May - 2024 Physics Paper - V Electricity & Magnetism

[Tin	ne: 1:30	Hours]		The second of th	[Max. Marks: 40]			
		Please	check whether you have g	ot the right question paper.	13 1 GA			
N. B		i) -	All questions are compu	ılsory.				
		ii)	All questions carry equa	al marks.	u in t a			
		iii)	Draw neat diagrams and	d give labels wherever nece	ssary.			
		iv)	Figures to the right indi	cate full marks.				
		er temen	to a service to the or	D.M.	MAHAL			
Q1	a)	State and prov	ve Stoke's theorem.		10			
ν-	/		OR	LIB!	RARY) E			
	Expla	in in brief 🦱	No estronta (Missiero Fri		1			
		Coulomb's lav	V.	Real Property of the Control of the	17591			
			18 THE REPORT OF THE PARTY OF T	to the diple of the dipole in	oment 10			
		b) Calculate the electric field intensity due to the diple of the dipole moment $4.5 * 10^{-10}$ C/m at a distance 1 m from its center and on its axis.						
				en Language Language Language				
Q2	a)	Evolain dielec	trics and polarization of d	ielectrics	10			
Q2	a)	Explain dicied	dies and polarization of d		Control Control			
			OR					
					Anna 1			
	Expla	in in brief			10			
	a) Principle and construction of Ballistic galvanometer.							
	b)		그들이 그림을 가지하는 이 교생님들이 하고 있는데 한 시간을 했다고 있는데 이번 하는데 한 시간을 하고 있다. 그 이 시간에 가장됐다. 그런데	n a long straight wire carryi	ng current 1			
	-/	Ampere is moving parallel to the direction of current flow with a speed of $1.5 \times$						
		10^8 m/s. Calculate the force on the proton. (Given: charge on proton = $1.6 *$						
		$10^{-19} \& \frac{\mu o}{4\pi} =$	10-7)					
		4π) American					
	gans.		OVAN					
Q3	Write	short note on	(any two)		10			
	a)	Divergence an	d curl of vector A, If vect	$or A = x^3 i + xy^2 j + z K$				
	b)	Gauss's law	Commission —	1.4.1 ·	na salah da			
	c)	Relation between	een D, E and P	in a second and the s				
	d)	Ampere's law						
				Attachange Company				
Q4	Multip	ole Choice Que	estions		10			
	1. If the divergence of the velocity vector of a fluid is zero, then,							
			ty vector is solenoid vecto		essible			
		(c) there is no	net flow of fluid	(d) All of the above				
Ş.	2.	Flux of electri	c field E is the					
		(a) Line integ	gral of E	(b) Surface integral of	E			
	6	(c) Volume in	ntegral of E	(d) None of the above				
			Section 2					

		1 LUMBER 27 LP CO	Jankay, "	
3.	Dimensions of electrical potential are the sa		one per unit charge	
	(a) Work done	(b) work done per unit charge		
	(c) Force per unit charge	(d) Electric field per unit charge		
4.	Work done on a unit positive charge in brin	nging it from	infinity to any point is	
	(a) intensity (b) Electrical potential	(c) Force	(d) none of these	
5.	The unit of polarization P is the same as,			
	(a) D (b) E	(c) V	(d) q	
6.	Electric potential due to an electric dipole is	s directly pro	portional to	
18.	(a) r^{-3} (b) r^{-2}	(c) r^{-1}	$(d) r^3$	
7	Magnetic induction due to a straight conduction the conductor is	ctor carrying	current at a distance d	
9	(a) Directly proportional to d ² (c) Directly proportional to d	, ,	ely proportional to d ²	
			and I	
8.	S.I. unit of magnetic induction B is	area (A)	Sentesoficials for largest for	
	(a) Newton/Ampere-meter (b) Wb /m2	(c) Tesla	(d) All the three	
9.	State which one of the following is correct			
	(a) Joule = Coulomb X Volt	(b) Joule = Coulomb / Volt (d) Joule = -Volt / Ampere		
Jan. 1 Isaa l	(c) Joule = Ampere X Volt	(d) Joule =	-voit/Ampere	
10.	If q is the charge passing through the coil of suspension wire is twisted through θ , then	f the Ballistic	c Galvanometer &	
	(a) $q \alpha \theta$ (b) $q \alpha \theta^2$ (c) $q \alpha \theta$	α 1/θ	(d) q $\alpha 1/\theta^2$	
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